RECORD OF ORNATE WRASSE *THALASSOMA PAVO* (LABRIDAE) IN THE NORTHERN ADRIATIC SEA

by

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RÉSUMÉ. - Signalement de la girelle-paon, *Thalassoma pavo* (Labridae), dans le nord de l'Adriatique.

Trois spécimens de girelle-paon, *Thalassoma pavo* (Linnaeus, 1758) ont été récoltés au large du Cap Kosača (Ile de Sveti Grgur, nord de l'Adriatique). Ils représentent l'extension la plus septentrionale en Adriatique de cette espèce thermophile.

Key words. - Labridae - *Thalassoma pavo* - MED - Adriatic Sea - Geographical distribution - First record.

The ornate wrasse, *Thalassoma pavo* (Linnaeus, 1758), is a small protogynous labrid fish inhabiting rocky bottoms in the shallow Mediterranean littoral zone, chiefly along the southeastern coasts of the basin. It is also distributed in the eastern Atlantic: Portugal to south of Cape Lopez, Gabon and including the islands of Azores, Madeira, Canary, São Tomé and Annobon (Gomon and Forsyth, 1990). Its distribution pattern leads one to consider this fish to be among the so-called Mediterranean thermophilic southern species. It is rare in the Adriatic, occurring in the southern part (Jardas, 1996).

Three specimens of the ornate wrasse *T. pavo* were found in the northern Adriatic (Island Sveti Grgur), in a region substantially further north than previous record areas.

On 8 August 2002, the three specimens were caught with fish trap at about 8 m - 15 m depth northwest off the Cape Kosača - Island Sveti Grgur (14°45’N-44°53’E) (Fig. 1) on the rocky bottom with varying slopes, comparatively rich in crevices and colonized by erected macroalgae. They were two very large specimens in "torquata" livery measuring 193.3 mm TL and 195.4 mm TL respectively, and a smaller primary livery individual of 130.0 mm TL. Wernerus and Tessari (1991) reported that in the "unimaculata" livery (the so-called female livery) are comprised females and primary males and the "lineolata" and "torquata" liveries specimens are secondary males. The sea surface temperature was 24.1°C. The specimens were identified in accordance with Jardas (1996), and deposited in the Ichthyological Collection of the Institute of Oceanography and Fisheries in Split, Croatia. Then were preserved in 4% buffered formaldehyde immediately after capture and subsequently measured to the nearest 0.1 mm.

This record of ornate wrasse near Cape Kosača (Island Sveti Grgur) in the eastern Adriatic represents the northernmost occurrence of this species in the Adriatic Sea. The last record of ornate wrasse was in the central Adriatic (Rogoznica and Primošten area) in 2001 (Dulčić and Pallaoro, 2002). Record from this study and previous records of ornate wrasse in the Adriatic Sea (increased occurrence in the southern and central Adriatic) could indicate a possible expansion to the northern parts, which has already been reported for other areas in the Mediterranean. The recent increased occurrence of ornate wrasse in the Ligurian Sea, for instance, supports the hypothesis of the establishment of true populations of this warm-water species in the Ligurian Sea. It is in further expansion in the Ligurian Sea and presently reproduces there, thus getting independent from the larval supply from the Tyrrhenian Sea (Vacchi *et al.*, 1999, 2001). A comparable expansion of the ornate wrasse northward in the western Mediterranean was thus reported, and the relationship between this event and climate changes hypothesized (Astraldi *et al.*, 1994). Several other authors (Bianchi and Morri, 1993; 1994; Francour *et al.*, 1994), in fact, pointed out that the recent spreading of the ornate wrasse in the northernmost sectors of the western Mediterranean could be a response to the ongoing seawater warming. Densities of ornate wrasse appeared to be related to the surface water temperature, with higher densities during warmer months (Guidetti, 2002). Guidetti *et al*. (2002), moreover pointed out that climatic conditions (e.g., water temperature along the latitudinal gradient) and substrate features (e.g., macroalgal cover, physical complexity, slope) are likely to affect although at different spatial scales average abundances and size structure of the ornate wrasse populations along the western Italian coast. High temperatures in summer are crucial for the sexual maturation of this subtropical fish species (Vacchi *et al*., 2001). The topography and environmental of study site (Island Sv. Grgur) correspond well to the preferred habitat of *T. pavo* for reproduction (Wernerus and Tessari, 1991). It could be suggested that the present seawater warming and changes in the hydrographic properties of the Adriatic Sea (Grbec *et al.*, 1998) is altering the distribution patterns of the ornate wrasse, as well as of other southern fish species (see in Dulčić and Grbec, 2000). Over the past century northern

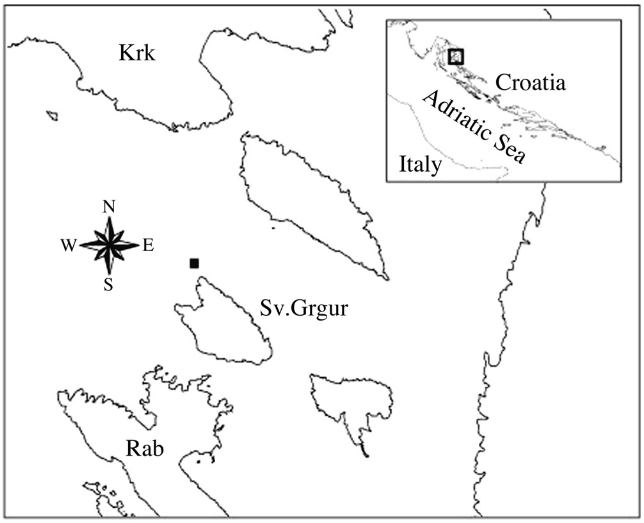

Figure 1. - Capture locality: Cape Kosača, Island Sveti Grgur (Northern Adriatic).

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hemisphere's average surface temperature has increased by about 0.6°C, while northern Adriatic air temperature increased by 0.79°C since 1900 (Grbec *et al*., 1998). From the time of instrumental records, the 1990s were the warmest decade, and 1998 and 2000 the two warmest years in the Adriatic (Grbec, pers. comm.).

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